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Remarks

This application has been reviewed in light of the Office Action of October 19, 2006. Claims 1-23 are pending, and all claims are rejected. In this paper, claims 1, 5, and 14 are amended, new claims 24-26 are added, and the following remarks are submitted. Reconsideration of this application is requested.

**Information Disclosure Statement** Applicant filed an information disclosure statement simultaneous with the filing of the instant application including a Form PTO/SB/08, although the Office Action did not contain a copy of that Form signed by the Examiner indicating that the listed references had been considered. Applicant respectfully requests the Examiner send Applicant a signed copy with the next communication from the Patent Office, with the references initialed as having been considered.

**Ground 1.** Claim 13 is rejected under 35 USC 112 as indefinite. Applicant traverses this ground of rejection.

Claim 13 is amended responsively.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

**Ground 2.** Claims 1, 2, 4-7, 9, 11, 12, and 14-23 are rejected under 35 USC 102 a anticipated by JP 57-164958. Applicant traverses this ground of rejection.

The following principle of law applies to sec. 102 rejections. MPEP 2131 provides: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the ... claim. The elements must be arranged as required by the claim..." [citations omitted] This is in accord with the decisions of the courts. Anticipation under section 102 requires 'the presence in a single prior art disclosure of all elements of a claimed invention arranged as in that claim.'

Carella v. Starlight Archery, 231 USPQ 644, 646 (Fed. Cir., 1986), quoting Panduit Corporation v. Dennison Manufacturing Corp., 227 USPQ 337, 350 (Fed. Cir., 1985)

Thus, identifying a single element of the claim, which is not disclosed in the reference, is sufficient to overcome a Sec. 102 rejection.

Claim 1 recites in part:

"providing a chemically reducible nonmetallic alloying-element precursor compound of an alloying element, wherein the alloying element is thermophysically melt incompatible with the iron base metal;"

Claim 14 recites in part:

"providing a chemically reducible nonmetallic alloying-element precursor compound of an alloying element that is thermophysically melt incompatible with the iron base metal."

The explanation of the rejection argues that "It would inherently that at least one of these alloying elements disclosed by JP '958 would be thermophysically melt incompatible..." Office Action at page 3. Applicant respectfully disagrees.

MPEP 2112-2113 sets forth the law on inherency. Inherency is not properly asserted unless there is good evidence to suggest that the asserted property or characteristic is necessarily present in the teachings of the prior art reference. The concept of inherency is not provided as a way to fill in the gaps in missing disclosure or teachings based upon speculation, unless the asserted property or characteristic may be shown to be necessarily present by objective evidence. Instead, "inherency" is used when every aspect of the disclosure of a reference and the claimed subject matter are otherwise exactly the same, then it may be inferred that some property or characteristic further recited in the claim must necessarily be present in the art reference. MPEP 2112 provides "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); In re Oelrich, 666 F.2d 578, 581-82, 212 USPQ 323,

326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" In re Robertson, 169 F.3d 743,745,49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)."

If these rejections are maintained, Applicant asks that the Examiner provide the basis in fact or technical reasoning for the claim of inherency.

Claim 1 further recites in part:

"consolidating the metallic alloy to produce a consolidated metallic article, without melting the metallic alloy and without melting the consolidated metallic article, wherein the consolidated iron-base metallic article is a martensitic-composition steel that is capable of being heat treated to produce a structure having a continuous body-centered cubic or body-centered tetragonal crystal structure matrix phase wherein at least about 75 percent by volume of the body-centered cubic or body-centered tetragonal crystal structure matrix phase is present in an acicular phase morphology."

Claim 14 further recites in part:

"post-processing the consolidated metallic article by heat treating the consolidated metallic article to form a martensitic article, wherein the martensitic article includes a body-centered cubic phase or a body-centered tetragonal matrix phase, and wherein at least about 75 percent by volume of

the body-centered cubic phase or the body-centered tetragonal matrix phase is present in an acicular phase morphology."

JP '958 has no such disclosure. The reference does not teach body-centered cubic or body-centered tetragonal crystal structures and does not teach an acicular phase morphology, nor does it disclose, "at least about 75 percent by volume of the body-centered cubic or body-centered tetragonal matrix phase is present in an acicular phase morphology." JP '958 does not disclose the recited approach of claim 1 or claim 14.

The explanation of the rejection discusses and relies upon Example 1 of JP '958. Example 1 produced a material, which is illustrated in Figures 1-2 of JP '958. JP '958 does not suggest that the resulting structure is martensitic, and the resulting structure certainly does not appear to be acicular. JP '958 does not teach that the resulting structure is acicular or the other recited limitations.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

**Ground 3.** Claim 8 is rejected under 35 USC 103 over JP '958 in view of Fray (WO 99/64638). Applicant traverses this ground of rejection.

MPEP 2142, under ESTABLISHING A PRIMA FACIE CASE OF OBVIOUSNESS, provides: "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. [citations omitted]. See MPEP para 2143-2143.03 for decisions pertinent to each of these criteria."

First requirement--there must be an objective basis for combining the teachings of the references

The first of the requirements of MPEP 2142 is that "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings." The present rejection is a sec. 103 combination rejection. To reach a proper teaching of an article or process through a combination of references, there must be stated an objective motivation to combine the teachings of the references, not a hindsight rationalization in light of the disclosure of the specification being examined. MPEP 2142, 2143 and 2143.01. See also, for example, In re Fine, 5 USPQ2d 1596, 1598 (at headnote 1) (Fed. Cir. 1988), In re Laskowski, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989), W.L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 311-313 (Fed. Cir., 1983), and Ex parte Levengood, 28 USPQ2d 1300 (Board of Appeals and Interferences, 1993); Ex parte Chicago Rawhide Manufacturing Co., 223 USPQ 351 (Board of Appeals 1984). As stated in In re Fine at 5 USPQ2d 1598:

"The PTO has the burden under section 103 to establish a prima facie case of obviousness. [citation omitted] It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references."

And, at 5 USPQ2d 1600:

"One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

Following this authority, the MPEP states that the examiner must provide such an objective basis for combining the teachings of the applied prior art. In constructing such rejections, MPEP 2143.01 provides specific instructions as to what must be shown in order to extract specific teachings from the individual references:

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"Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention when there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

\* \* \* \* \*

"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)."

\* \* \* \* \*

"A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. Ex parte Levengood, 28 USPQ2d 1300 (Bd.Pat.App. & Inter. 1993)."

Here, there is set forth no objective basis for combining the teachings of the references in the manner used by this rejection, and selecting the helpful portions from each reference while ignoring the unhelpful portions. An objective basis is one set forth in the art or which can be established by a declaration, not one that can be developed in light of the present disclosure. In this case, there is no objective basis set forth in the Office Action. An advantage claimed by Fray is disclosed, but that is not a reason to combine the teachings of Fray with those of JP '958. JP '958 already discloses an approach for performing its process on iron-base alloys, and there is no reason to substitute Fray's approach for that of JP '958. Fray's stated advantages are discussed relative to the prior approach, not relative to the approach disclosed by JP '958 for iron-base alloys.

If the rejection is maintained, Applicant asks that the Examiner set forth the objective basis found in the references themselves for combining the teachings of the references, and for adopting only the helpful teachings of each reference and disregarding the unhelpful teachings of the reference. Thus, as it stands now, the invention as a whole is not prima facie obvious over the combined teachings of the prior art.

Second requirement--there must be  
an expectation of success

The second of the requirements of MPEP 2142 is an expectation of success. This requirement has not been addressed in the explanation of the rejection, and in any event more than Examiner's argument is required here.

As stated in MPEP 2142, "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. [citations omitted]."

Nothing in either reference suggests that the approach of Fray would be operable and successful with the iron-base alloys disclosed by JP '958. If the rejection is maintained, Applicant asks that the Examiner indicate the language in either reference that suggests that Frey's approach could be used with the iron-base alloys of JP '958.

Third requirement--the prior art  
must teach the claim limitations

The third of the requirements of MPEP 2142 is that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." In this regard, the following principle of law applies to all sec. 103 rejections. MPEP 2143.03 provides "To establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494,496 (CCPA 1970)." [emphasis

added] That is, to have any expectation of rejecting the claims over a single reference or a combination of references, each limitation must be taught somewhere in the applied prior art. If limitations are not found in any of the applied prior art, the rejection cannot stand. In this case, the applied prior art references clearly do not arguably teach some limitations of the claims.

Claim 8 incorporates the limitations of claim 1, which are not taught by JP '958 for the reasons stated earlier and which are incorporated here. Fray adds nothing in this regard.

Claim 8 further recites in part:

"the step of chemically reducing includes the step of  
chemically reducing the compound mixture by fused salt electrolysis"

The "compound mixture" is that recited in claim 1:

"providing a chemically reducible nonmetallic base-metal precursor  
compound of the iron base metal;

providing a chemically reducible nonmetallic alloying-element precursor  
compound of an alloying element, wherein the alloying element is  
thermophysically melt incompatible with the iron base metal; thereafter

mixing the base-metal precursor compound and the alloying-element  
precursor compound to form a compound mixture"

Neither reference teaches that a "compound mixture" having an iron base-metal precursor may be chemically reduced by fused salt electrolysis.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

**Ground 4.** Claims 3 and 10 are rejected under 35 USC 103 over JP '958 in view of Armstrong U.S. Patent 5,958,106. Applicant traverses this ground of rejection.



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Applicant incorporates the discussions in response to Grounds 1-3.

This is a sec. 103 combination rejection, and must meet the requirements set forth under Ground 3.

First requirement--there must be an objective basis for combining the teachings of the references

Here, there is set forth no objective basis for combining the teachings of the references in the manner used by this rejection, and selecting the helpful portions from each reference while ignoring the unhelpful portions. An objective basis is one set forth in the art or which can be established by a declaration, not one that can be developed in light of the present disclosure. In this case, there is no objective basis set forth in the Office Action. An advantage claimed by Armstrong is disclosed, but that is not a reason to combine the teachings of Armstrong with those of JP '958. JP '958 already discloses an approach for performing its process on iron-base alloys, and there is no reason to substitute Armstrong's approach for that of JP '958. Armstrong's stated advantages are discussed relative to the prior approach, not relative to the approach disclosed by JP '958 for iron-base alloys.

If the rejection is maintained, Applicant asks that the Examiner set forth the objective basis found in the references themselves for combining the teachings of the references, and for adopting only the helpful teachings of each reference and disregarding the unhelpful teachings of the reference. Thus, as it stands now, the invention as a whole is not prima facie obvious over the combined teachings of the prior art.

Second requirement--there must be an expectation of success

Nothing in either reference suggests that the approach of Armstrong would be operable and successful with the iron-base alloys disclosed by JP '958. If the rejection is maintained, Applicant asks that the Examiner indicate the language in either reference that suggests that Armstrong's approach could be used with the iron-base alloys of JP '958.

Third requirement--the prior art  
must teach the claim limitations

Claim 3 incorporates the limitations of claim 1, which are not taught by JP '958 for the reasons stated earlier and which are incorporated here. Armstrong adds nothing in this regard.

Claim 3 further recites in part:

"...the step of providing the chemically reducible nonmetallic base-metal precursor compound includes the step of  
providing the chemically reducible nonmetallic base-metal precursor compound in a gaseous form,"

Neither reference suggests that a precursor compound for iron, the base metal, may be provided in gaseous form.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

**Double Patenting Rejections** The Examiner has rejected the claims as non-statutory obviousness-type double patenting with respect to Shamblen U.S. Patent 6,926,754, either alone or in combination with additional references. Applicant traverses these grounds of rejection.

The double-patenting rejections are made on the basis that the "Examiner asserts" that the instant claims "would be in the scope of" certain claims of the '754 patent. Office Action at page 8. Thus, it appears that the Examiner incorrectly bases the double patenting rejections on an incorrect legal standard and Applicant defers additional substantive comment until the Examiner sets forth a prima facie basis for the rejection.

MPEP 804 (I)(B)(1) states in part, "In determining whether a nonstatutory basis exists for a double patenting rejection, the first question to be asked is - does any claim in the application define an invention that is merely an obvious variation of an invention

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claimed in the patent?" Thus, the analysis is not merely limited to a question of whether the claims of one patent might fall within the scope of another, i.e. whether one patent dominates another. See MPEP 804 (II). It appears, however, from the Examiner's explanation of the rejection, that the latter was in fact the only standard applied, and thus a prima facie ground of rejection has not been made. Applicant requests that the Examiner reconsider and withdraw this ground of rejection.

Applicant submits that the application is in condition for allowance, and requests such allowance.

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**CONCLUSION**

For at least the reasons set forth above, Applicant respectfully requests reconsideration of the Application and withdrawal of all outstanding rejections. Applicant respectfully submits that the claims are not anticipated by nor rendered obvious by the cited art either alone or in combination and thus, are in condition for allowance. As the claims are not anticipated by nor rendered obvious in view of the applied art, Applicant requests allowance of all pending claims in a timely manner. If the Examiner believes that prosecution of this Application could be expedited by a telephone conference, the Examiner is encouraged to contact the Applicant's undersigned representative.

This Response has been filed within three (3) months of the mailing date of the Office Action and it is believed that the only fees due with the filing of this paper is \$150 for an additional three claims. The Commissioner is hereby authorized to deduct these and any fees determined by the Patent Office to be due from the undersigned's Deposit Account No. 50-1059.

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Respectfully submitted,  
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